

EXHIBIT 1

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Software Engineering Ladder - Levels 3-9 effective 2019-Oct-01

Go link: go/swe-ladder

- For questions about the promo process, please contact perfhelptech@google.com
- For specific questions about the SWE ladder, please contact swe-ladder-questions@google.com
- To view deltas for the SWE ladder as of 2020-Apr-01 see this [doc](#)
- For answers to frequently asked questions, see go/swe-ladder-faq
- For a preview of upcoming edits effective 2020-Oct-01, see: go/swe-ladder-next

Expectations by SWE ladder level, L3-L9

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Overview

This document describes the expectations for the software engineering job ladder. While the specifics vary by level, engineers are evaluated by similar criteria across the board: impact, difficulty and leadership.

There are multiple paths to the next level. For example, one engineer might demonstrate stronger leadership whereas another may tackle more difficult problems. However, it is rare at the higher levels that engineers are one-dimensional. Some evidence of meeting all criteria is often required, it's just the mix that's different.

Impact

Impact is the effect that wouldn't have happened if you hadn't done what *you* did.

There are two aspects of impact, both of which are important:

Note: by virtue of Canadian legislation, the local job title is "Software Developer." The two titles directly correspond level-by-level.

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At L7 and beyond, citizenship contributions should continue to scale impacting groups, your org, your site, or consist of multiple individual efforts; examples include diversity or other community work, recruiting contributions, mentoring future leaders.

L8 / Principal Software Engineer

Principal Engineers (PEs) show impact by advancing the state-of-the-art in multiple functional areas, often cross-PA, such that, absent these advances, a product or business would not survive or would be greatly diminished. They serve as TL for multiple significant projects or a single project which is critical at the PA level or higher. They drive major technical, product, and business strategies; define, utilize, and implement best known practices; and have influence beyond their own teams, often Google-wide. They operate at a high level and strongly influence executive decisions, but are also hands-on when required, and take full responsibility for delivering their vision through launch and landing.

Some examples of PE-level impact might be (but aren't limited to):

- Creating dev infra that significantly increases productivity/quality/efficiency across Google
- Establishing innovative new algorithms, libraries, or services that power a range of new products and features, potentially driving a more advanced and consistent user experience across the set
- Inventing a cohesive cross-product design or a new paradigm for user experience that integrates and significantly enhances the user experience
- Designing hardware innovations that power significant parts of Google
- Manifesting new data / signals that significantly increase product quality, reliability, precision/recall, usage, revenue, etc.
- Reducing Google's technical debt by merging and/or deprecating significant chunks of infrastructure, unlocking higher productivity, quality, or development velocity

[Difficulty]

Principal Engineers work on the company's most challenging / deepest technical projects by repeatedly and consistently demonstrating imaginative problem-solving abilities and strong technical judgment. They anticipate problems and solve them before they become fires, and their solutions are recognized as best-in-class within, and often outside of, Google. They exhibit mastery of technical, business, and Google product knowledge, and use that knowledge to successfully apply ground-breaking techniques within a Google context and to shape how Google influences the industry. A Principal Engineer demonstrates a mastery of communication, negotiation and influence skills, and uses those skills to arbitrate and advocate for technical issues across multiple products / groups / organizations. They are seen as champions of engineering excellence, and hold their work to the highest standards of quality and simplicity.

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[Leadership]

While a Principal Engineer's contribution is primarily through designing, directing and contributing to technical accomplishments, they are also expected to exhibit the organizational leadership to achieve their technical vision. While they may or may not be people managers, PEs are expected to lead, engage, inspire and collaborate superbly with others. Examples of this include:

- Modeling Google's values (the 3 Respects)
- Delivering on the Leadership Expectations for Google's senior leadership
- Fostering strong collaborations independent of organizational boundaries
- Creating organizationally healthy teams with high levels of execution excellence
- Helping to address, fix, and overcome organizational barriers or dysfunctions that impede progress
- Growing future leaders by serving as mentors to junior staff, helping them develop both technically and in their Google role
- Recruiting key outside talent
- Sustaining and developing the software community at Google via code and design reviews, engineering education and development, and expert guidance to others in the field
- Representing Google externally to customers, academia, and industry
- Advocating with senior leaders for efforts like large-scale Code Mauve/Code Yellow to "stop the line" when strategic threats emerge (e.g. reliability misses, overwhelming technical debt, unnecessary resource growth)
- Promoting thoughtful retrospectives through the org, mentoring others in blameless postmortem culture, and ensuring that org priorities reflect both tactical and strategic followup actions.

At L8 and beyond, citizenship contributions should continue to scale impacting groups, your org, your site, or consist of multiple individual efforts, and in some cases can reach organizations; examples include diversity or other community work, recruiting contributions, mentoring future leaders.

L9 / Distinguished Software Engineer

The Distinguished Software Engineer is recognized as world-class expert inside and (potentially) outside Google. Distinguished Engineers (DEs) show impact by leading innovative and groundbreaking development projects within the software engineering community, across products, and across Google overall. DEs serve as technical leadership for PA-wide (and sometimes Google-wide) projects and products, and drive strategy across multiple products to build infrastructure, cross-functional products, and execute internal (and sometimes external) product initiatives for Google.

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Distinguished engineers build a portfolio of work and impact across the company, with internal and potentially external initiatives that create permanent change.

[Difficulty]

Distinguished Engineers work on the company's most challenging / deepest technical projects, as well as some of our most ambiguous and externally visible product decisions. DEs repeatedly and consistently demonstrate not only technical problem-solving and judgment but build products and infrastructure that serve Google well into the future through operational and business understanding. DEs exhibit deep technical, business, and Google product knowledge, but also drive ground-breaking vision across those areas to create long-standing products and infrastructure that scale up with the company and enable consistently better solutions in the future. A Distinguished Engineer exhibits mastery of communication, negotiation, and influence skills, as well as helping to build strong large-scale teams across multiple products / groups / organizations. A key factor in DE scope is creating permanent change in the technical vision and in the scalability, simplicity, and future-proofing of Google's products and systems.

[Leadership]

While a Distinguished Engineer's contribution is primarily through designing, directing, implementing and contributing to technical accomplishments, they are also expected to exhibit the organizational leadership to achieve their technical vision. While they may or may not be people managers, DEs are expected to lead, engage, inspire and collaborate superbly with others, as well as provide key technical roadmaps and technical / organizational judgment to support Product Area level teams. DEs may work in tandem with Directors and VPs to define and execute technical strategy and arbitrate technical process and decisions at a high level. Examples of this include:

- Modeling Google's values ([the 3 Respects](#)).
- Delivering on the [Leadership Expectations](#) for Google's senior leadership.
- Fostering strong collaborations independent of organizational boundaries,
- Creating organizationally healthy teams with high levels of execution excellence.
- Helping to address, fix, and overcome organizational barriers or dysfunctions that impede progress. Establishing permanent change in the organization through better technical roadmaps, standards, and goals
- Growing future leaders by serving as mentors, defining appropriate technical training, and developing very senior technical talent and TL positions within the teams they work with.
- Recruiting key outside talent and reinforcing Google's place in external strategy decisions
- Sustaining and developing the software community at Google via code and design reviews, engineering education and development, and expert guidance to others in the field
- Representing Google externally to customers, academia, and industry, and informing Google's strategy with respect to key external issues such as security, privacy, hardware development and many other fields.

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